



UTAH DEPARTMENT OF
HEALTH

COVID Technologies, Apps, and Automated Contact Tracing

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EpiTrax



- Statewide disease surveillance system used by UDOH, all 13 LHDs, 5 tribal public health agencies, and HAFB PHO
- Used for all communicable disease surveillance and some environmental conditions
- All COVID Surveillance and Contact Tracing

Not on our watch!



 The New York Times

Bottleneck for U.S. Coronavirus Response: The Fax Machine

Before public health officials can manage the pandemic, they must deal with a broken data system that sends incomplete results in formats they ...

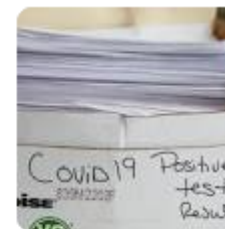
Jul 13, 2020



 Cleveland.com

What Ohio could have learned about the coronavirus – if the state had the data

COLUMBUS, Ohio – Public health is a topic that has inspired little ... At two decades old, Ohio's infectious disease reporting database is antiquated. ... some laboratories were emailing and faxing COVID-19 test results, which ...
3 weeks ago

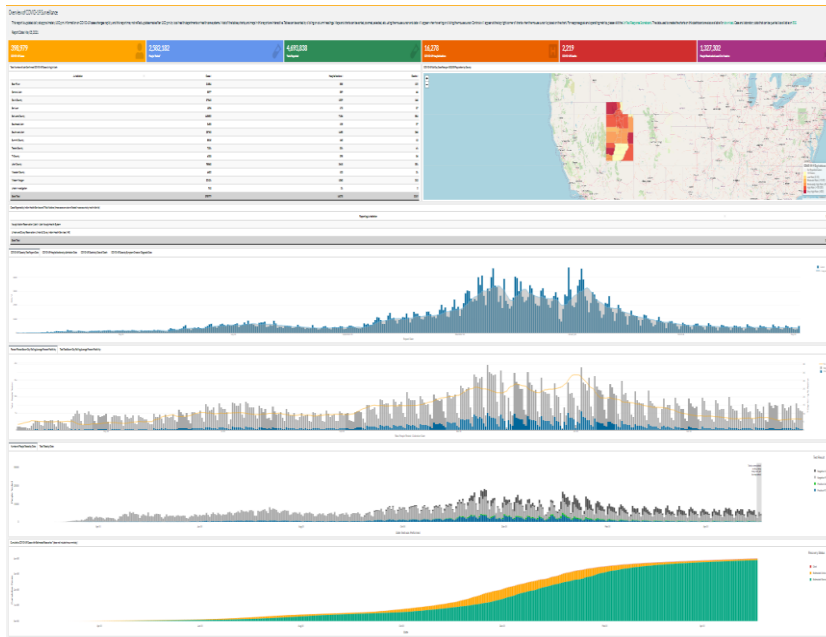
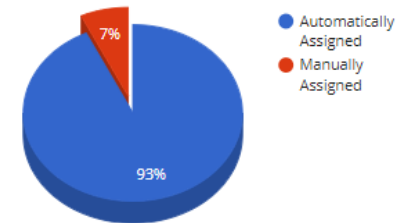


Existing Electronic Surveillance



- Electronic Laboratory Reporting (ELR)
- Electronic Case Reporting (eCR)
- Syndromic Surveillance (SyS)

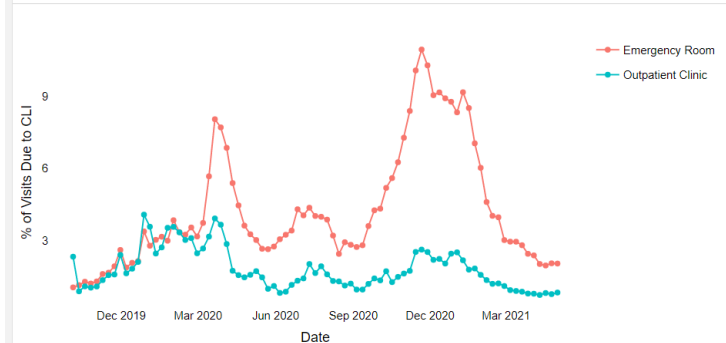
Percent Automated Messages vs. Manual



Syndromic Surveillance Trends

The chart below shows how many people are going to emergency rooms and outpatient clinics with COVID-19 symptoms. These cases are calculated by taking the percentage of people with these symptoms or a diagnosis of COVID-19 (CDC case definition) and comparing them to all other emergency room or outpatient clinic visits. Syndromic surveillance can show increases more quickly than lab testing so an increase in this measure might indicate growing COVID-19 illness. The data in this system are also affected by recent changes in health care seeking behavior, including increasing use of telemedicine and social distancing. These changes affect the numbers of people and their reasons for seeking care, so trends need to be interpreted with other surveillance data.

Weekly CLI by Syndrome and Discharge Diagnosis by Facility Type



Utah eCR Implementations

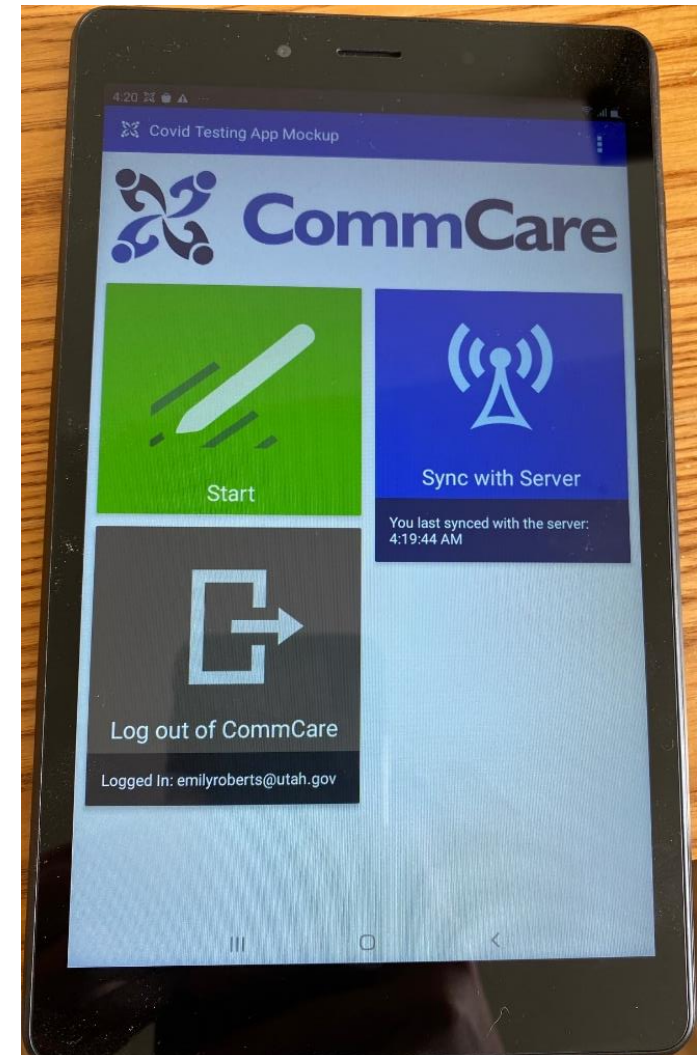


- Family planning organization – October 2016
 - 9 clinics
 - Chlamydia, gonorrhea, syphilis, HIV
- Largest healthcare system – December 2019
 - 22 hospitals, ~160 clinics
 - Pertussis, chlamydia, gonorrhea, salmonella, zika virus, COVID
- Academic healthcare system – June 2020
 - 5 hospitals, 12 community clinics, several specialty centers
 - COVID

CSTE COVID-19 Reporting Application Pilot



- CSTE/World Economic Forum partnership
- Tablets customized with CommCare software
- Results automatically sent and housed in the cloud
- Full pilot implemented in less than 36 hours, actual training and setup per site averaging 2-3 hours total
- Successes:
 - Portability, data quality, workflow
- Challenges:
 - Software updates, API connection issues, pilot discontinued
- Pilot successfully demonstrated the benefits of a tool like this for low-resource sites who are not able to devote additional resources for electronic reporting



Reporting Portal

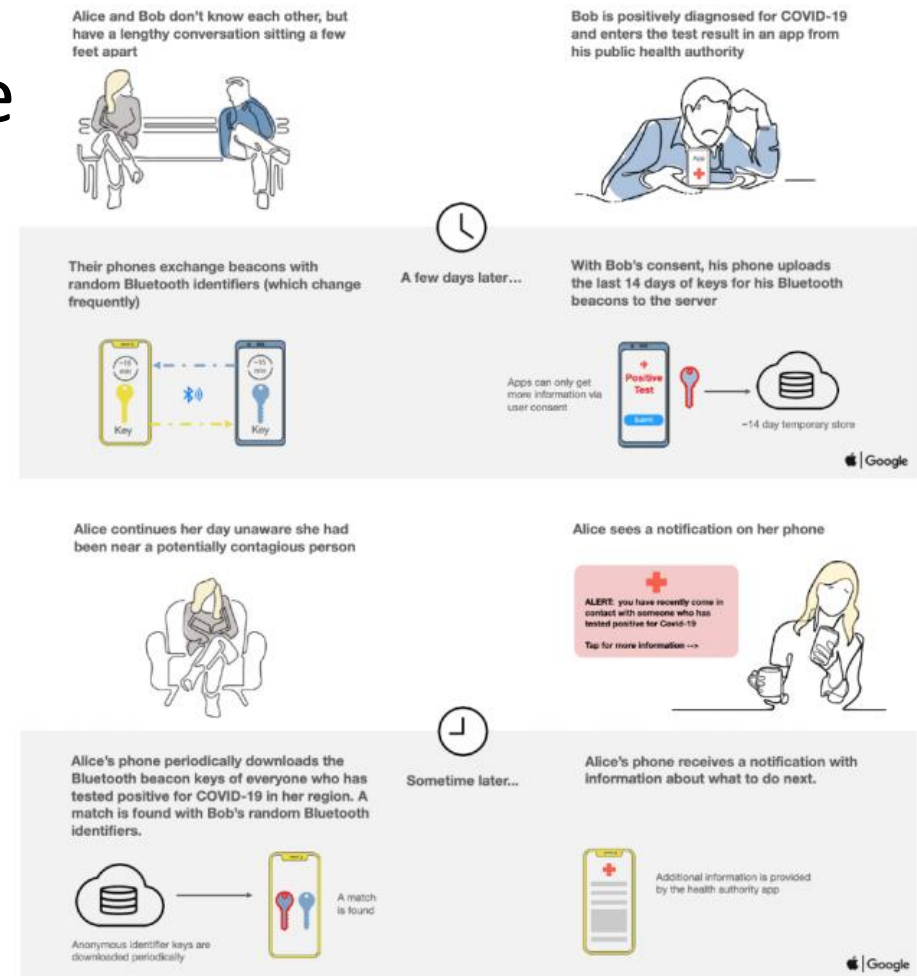
A screenshot of the "Reporting Portal" for COVID-19 (SARS-CoV-2) Laboratory Results. The interface has a teal header with the Utah Department of Health logo, the title "Reporting Portal", and links for "Covid-19 Contact Record Import File Layout" and "Documentation and Help". A left sidebar contains "Navigation" (Add content, COVID-19 (SARS-CoV-2) Laboratory Result Reporting Portal, Upload COVID-19 (SARS-CoV-2), Import, Documentation and Help) and "Site Admin" (Users, Biomart Submissions, Covid-19 Submissions, Edit Covid-19 Facilities, Imported Covid-19, Imported Covid-19 Contact). The main content area is titled "COVID-19 (SARS-CoV-2) Laboratory Result Reporting Portal" and "Step 1 of 6 Demographics". It includes a paragraph explaining the reporting requirements and a "Demographics" section with a "Name" dropdown and three text input fields for "First", "Middle", and "Last".

- UDOH developed an online reporting portal for organizations that cannot send results through HL7 messaging
- Within the portal, there are two options for reporting:
 - Users can enter results one-by-one using direct data entry form
 - Multiple results can be uploaded at one time using a .csv formatted spreadsheet
- For .csv upload, submitters must match a very strict format; including headers of requested data elements and certain data element values

Mobile Technologies



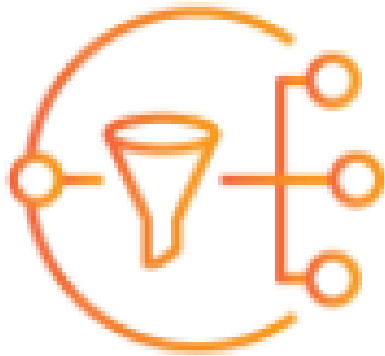
- Healthy Together
- Apple | Google Exposure Notification Express



Online Access to Testing



SMS Notifications and Referrals



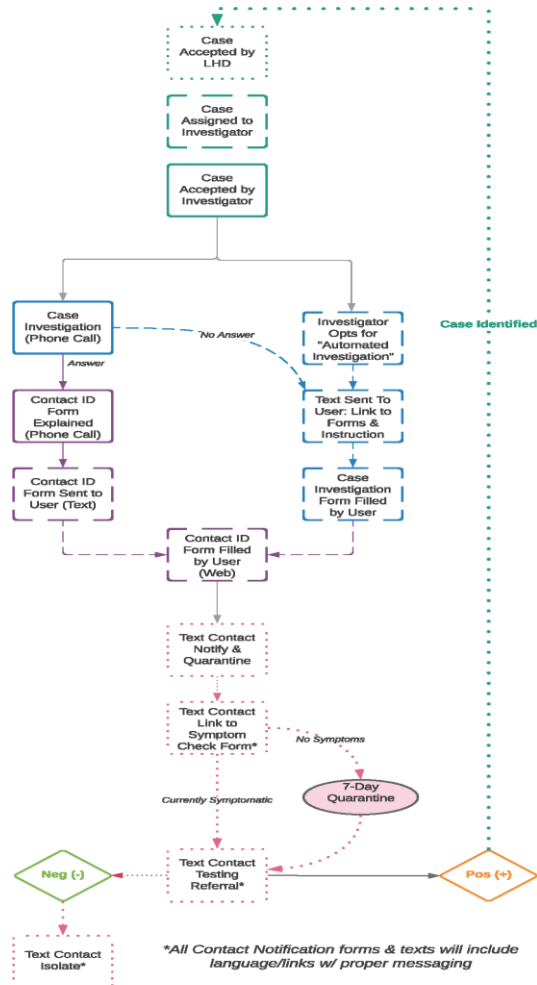
Amazon SNS



Automated Contact Tracing System



Automated Contact Tracing Flow



- Case investigation
- Contact Tracing
- Contact Notification
- Testing Referral

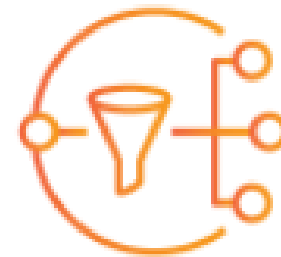
Automated Contact Tracing System



EpiTrax



NEXTGEN
CONNECT

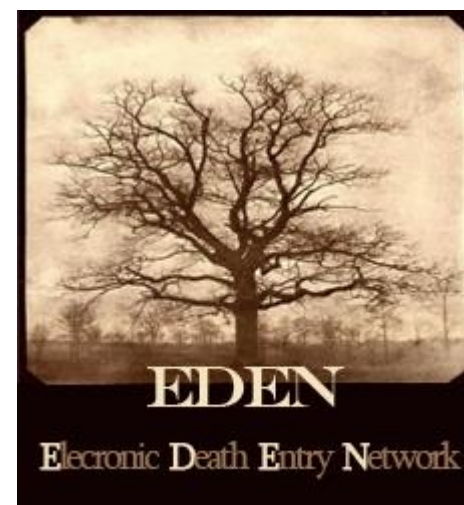


Amazon SNS

Internal Integrations



EpiTrax





Thank
You!